may not be suited to the particular application. IPP providers will not use the operator functions in their smart payphones to handle 0+ calls if they have concluded that they are economically better off presubscribing their payphones to OSPs, including AT&T, MCI or Sprint.

Sprint's citation of growth data regarding a single third-tier OSP also does not justify any general conclusion about the third-tier OSP market as a whole. Data on other individual OSPs would indicate the exact opposite conclusion. For example, according to the Commission's "Long Distance Market Shares" Report, July 10, 1994, the revenues of several large third-tier OSPs have stagnated or severely declined since 1990. Telesphere Network, Inc., which had absorbed an OSP called National Telephone Services, Inc., had $293 million in revenue in 1990 but went bankrupt in 1991. Oncor Communications, Inc. has experienced a continuous decline in revenues from $230 million in 1990 to $140 million in 1993. Comsystems Network Services' revenues showed annual growth of less than 2% between 1990 and 1992. (Comsystems is now part of LDDS Communications, Inc.) These examples hardly support the conclusion that the Commission has been conservative in its forecast of third-tier OSP growth. Rather, they support those parties who argue that third-tier OSP revenues are likely to stagnate or even decline between now and 1997.

Sprint's support for its arguments regarding the rates of third-tier OSPs is also weak. Sprint cites the rates used by the FCC as the basis for investigation of certain OSPs, and notes that

those rates were more than twice the level charged by AT&T. As Sprint recognizes in a footnote, the rates investigated by the FCC were the maximum rates charged by those particular OSPs for sample calls. Further, the OSPs singled out by the FCC for investigation were those whose maximum rates were at the high end of the spectrum of rates reported by hundreds of OSPs. Many other third-tier OSPs reported substantially lower maximum rates. Further, it is not reasonable to assume that any third-tier OSP's maximum rate is also its average rate.

In any event, there is no credible evidence in the record showing that the gains from eliminating the third-tier rate differential are worth anything even approaching the $1.5 billion per year that BPP will cost. OSP rates that are excessive can and should be addressed more cost-effectively by rate regulation.

E. Regulatory Costs

Sprint claims that BPP would reduce regulatory costs associated with policing compliance with TOCSIA and regulating OSP rates. As APCC explained in its initial comments, to the extent that there are some payphone providers or aggregators who intentionally violate the TOCSIA requirements, these same individuals are at least equally likely to violate BPP. Thus, the inconvenience to callers resulting from some aggregators' intentional violation of TOCSIA will not be solved by imposing BPP: callers will still be inconvenienced by these individuals' non-compliance with BPP. In short, an enforcement problem is an enforcement problem. The solution for residual non-compliance with

TOCSIA is for the FCC to work with industry groups to address the issue. Any savings in the cost of policing compliance with TOCSIA will be offset by the cost of policing compliance with BPP.

As to regulation of OSP rates, this is not occurring at present at the interstate level. Thus, it is inappropriate to include the cost of FCC rate regulation as a cost "savings" attributed to BPP, unless one also includes in the calculus the foregone benefits that would result from FCC rate regulation of OSPs.

More importantly, if, as APCC advocates, the Commission does initiate reasonable "benchmark" regulation of OSP rates, then there will be some regulatory costs involved. However, the cost will be far less than the enormous costs associated with BPP, and the benefits would include virtually all the benefits that can legitimately be attributed to BPP. See below.

In summary, the Commission cannot assume BPP will make regulatory costs go away. To the extent the Commission adopts regulations to implement a policy, be it TOCSIA or BPP, there will be an enforcement burden. The issue is how to use enforcement resources in the most cost-effective manner.

III. REASONABLE RATE REGULATION IS A MORE COST-EFFECTIVE, LESS INTRUSIVE ALTERNATIVE

Numerous parties, including many "third-tier" OSPs, agree with APCC that a program of reasonable rate regulation is a less costly, less intrusive alternative that would achieve virtually all the benefits that can legitimately be attributed to BPP. American

Network Exchange (AMNEX) at 7; AT&T at 9-10; Bell Atlantic at 3; Cleartel and Call America at 12; CompTel at 39; Intellicall at 1, 6-7; Iowa Network at 11; NYNEX at 13; Teltrust at 13; USLD at 15-16.

One of the benefits cited by some advocates of BPP is restoring public confidence in the integrity of the public telecommunications system. Sprint at 27. To the extent that this is a problem that should be addressed, it can equally well be addressed by rate regulation aimed at eliminating excessive charges for operator services. Reasonable rate regulation would also promote dialing convenience by minimizing any cause for consumers to avoid dialing 0+ calls for fear of being charged excessive rates. In addition, reasonable rate regulation would benefit the public by discouraging the continued participation in the marketplace of those OSPs whose operations are so inefficient that they can only exist by "gouging" consumers.

Currently, rate ceilings are used as benchmark regulation by a number of state commissions. Intellicall, Att. A. Rate regulation based on reasonable "benchmark" rate ceilings should also be employed by the FCC.[17]

APCC has formed a committee to address this issue and has had internal deliberations on the subject. APCC recommends that the Commission establish "benchmark" rate ceilings for each of the

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[17] Contrary to NASUCA's claim that rate benchmarks would be too difficult to enforce, NASUCA at 5, such benchmarks offer a bright-line regulatory scheme that makes it relatively easy to recognize and focus on those OSPs that require investigation.

basic elements of an operator service call. Rates that exceed these "benchmarks" would be subject to Commission investigation pursuant to its TOCSIA and Title II authority. Rates that do not exceed the benchmarks would not be subject to investigation.

Benchmark rate ceilings should be established for each of the basic elements of an operator service call. Thus, the Commission should set a rate ceiling for the usage charges associated with operator assisted calls. The fixed charges assessed for operator assisted calls should also be subject to rate ceilings. The benchmark rate ceilings for the fixed charges should apply separate rate ceilings for (1) automated calling card calls; (2) operator assisted calling card or collect calls; and (3) person-to-person calls. The rate ceilings would apply to the total fixed charges for each type of call, including any surcharge or "property imposed fee" ("PIF"). The sum of the rate ceiling on usage changes, multiplied by the duration of the call plus the applicable rate ceiling on fixed changes, would yield an aggregate rate ceiling that could be easily derived for application to any particular operator-assisted call. It could be determined whether or not a customer's total bill for a particular call exceeds the applicable rate ceiling.

The rate ceilings should not be equated with existing dominant carrier rates, as some parties suggest. In previous decisions, the Commission has recognized that third-tier OSPs face significantly higher costs in a number of areas. It would not be reasonable to require all OSPs to duplicate the rates charged by the dominant

OSP, especially since consumers can easily reach their OSP of choice by dialing access codes. Instead, the Commission should set rate ceilings at levels which are calculated to ensure that consumers will not perceive that they are being "gouged" when they receive their telephone bills. APCC is willing to work with the Commission to develop an appropriate methodology for quantifying reasonable rate ceilings.

IV. THE FCC MUST ADDRESS THE FUNDAMENTAL STRUCTURAL PROBLEM IN THE PAYPHONE MARKET

While APCC disagrees with virtually all of the points raised by Sprint in its comments, there is one point on which Sprint and APCC agree: the current differences in treatment of IPPs and LEC payphones must be addressed by the Commission. Sprint at 35. As we have explained in these and earlier submissions, the current economics of the independent payphone business is largely a result of the dual regulatory regime under which IPP providers currently must compete with LEC payphones. Under this system, LEC payphone operations are integrated into the LECs' exchange monopolies and can operate without experiencing the full economic effect of the real cost of operating a payphone business. Further, under this system LECs can set prices for interconnection with the local network and other bottleneck services without worrying about how

those prices will effect their own payphone operations. Only their competitors are affected.[18]

Under this system, IPP providers are subject to artificially low limits on what they can charge for local calls and artificially high charges for local network interconnection and bottleneck services. It is because of this inequitable system that IPP providers depend to the extent that they do on the receipt of commissions from OSPs on 0+ calls.

The fundamental regulatory disparity between IPPs and LEC payphones manifests itself in multiple ways, even in areas where the Commission has been active. For example, in the area of compensation for interstate use of payphones, only one piece of the overall compensation issue has been addressed. While the Commission has prescribed a modest amount of compensation for the use of IPPs to make "access code" calls, there is still no compensation whatever for the use of payphones to call 800 numbers which are <u>not</u> defined as "access codes." APCC's data indicate that these "1-800-subscriber" calls are the most rapidly growing major category of payphone traffic, and that the number of such "1-800-subscriber" calls is much larger than any other category of non-coin call. IPP providers receive no payment from the caller or from the IXC for 1-800-subscriber calls. This is another factor

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[18] In arguing that LECs should be prescribed the same BPP compensation as IPP providers, Ameritech disregards these fundamental differences in the regulatory status of LEC payphones and IPPs. Ameritech at 5-6. LECs cannot be entitled to any BPP-related compensation until the regulatory status of their payphone operations is reformed to place their payphones on an equal footing with IPPs.

that exacerbates IPP providers' dependence on revenues from 0+ calls. The economic pressure on IPP providers would become intolerable if the Commission were to impose BPP, thereby eliminating the bulk of the compensation IPP providers currently receive from 0+ calls, while failing to address the lack of any compensation for 1-800-subscriber calls.

When the Commission initiated this docket, APCC pointed out that a petition to address the fundamental structural inequities of the current regulatory regime had already been pending for 3 1/2 years. See Attachment 1 to APCC's Petition to Expand the Scope of Rulemaking, filed May 28, 1992. APCC explained that it was not reasonable to exacerbate the existing price squeeze on IPP providers at a time when the Commission had not made any move to address the fundamental problem that created the price squeeze in the first place. Now, 3 1/2 years has stretched to more than six years. In the intervening period, the Commission has moved a great deal further in its exploration of BPP, but still has made no move to address the structural problems in the payphone market.

Therefore, with even greater urgency, APCC repeats what it said to Chairman Sikes in 1992: The Commission must, as a phase of its examination of billed party preference, address the disparate regulatory treatment accorded LEC and non-LEC payphones. It is legal error to impose BPP on IPP providers without addressing this structural inequity.

Respectfully submitted,

Albert H. Kramer
Robert F. Aldrich

KECK, MAHIN & CATE
1201 New York Avenue, N.W.
Penthouse Suite
Washington, D.C. 20005

(202) 789-3400

Attorneys for the American
Public Communications Council

Dated: August 31, 1994

EXHIBIT 1

Exhibit 1

Current LEC Cost Estimates for Billed Party Preference

CURRENT LEC COST ESTIMATES
FOR BILLED PARTY PREFERENCE

	ONE-TIME		RECURRING
	w/14 Digit	w/o 14 digit	
Ameritech	103.8	103.8	35.2
Bell Atlantic	135.0	138.8	9.0
Bell South	99.9	99.9	29.0
GTE	160.3	165.4	52.6
NYNEX	120.4	134.3	20.7
Pacific Telesis	144.4	144.4	28.7
Southwestern Bell	118.9	134.9	15.3
US West	149.9	149.9	28.4
Subtotal for Large LECS	1,032.6	1,075.4	218.9
Cincinnati Bell	9.0	9.0	8.3
SNET	33.0	33.0	14.0
Sprint LTD	272.4	272.4	3.5
USTA	318.1	318.1	10.5
Subtotal for Small LECS	632.5	632.5	36.3
TOTAL	1,665.1	1,707.0	255.2

EXHIBIT 2

Exhibit 2

Supplementary study on "Quantifying the Costs of Billed Party Preference" by Dr. Charles L. Jackson and Dr. Jeffrey H. Rohlfs of Strategic Policy Research

STRATEGIC
POLICY
RESEARCH

7500 OLD GEORGETOWN ROAD · SUITE 810 · BETHESDA · MARYLAND 20814 · 301 215 9121 · FAX 301 215 4933

Quantifying the Costs of Billed Party Preference

by

Dr. Charles L. Jackson
and
Dr. Jeffrey H. Rohlfs

September 14, 1994

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Quantifying the Costs of Billed Party Preference

by
Dr. Charles L. Jackson
and
Dr. Jeffrey H. Rohlfs

September 14, 1994

I. Executive Summary

In this report we describe and document a model for calculating the total social costs of implementing and operating a Billed Party Preference (BPP) system. We consider a variety of scenarios involving alternative assumptions about the traffic that flows over the system and the conditions of its implementation (e.g., balloting). In every scenario we examine, the costs of BPP outweigh the benefits identified by the Commission. Even under an extreme scenario, where inputs were selected to push down the cost of BPP, the costs exceeded the benefits identified by the Commission. We see two major causes for the discrepancy between our results and those of the Commission presented in the FNPRM. First, our analysis considers many cost categories (such as IXC marketing expense and repression of long-distance calling by BPP cost recovery) which the Commission's analysis omitted. Second, it appears that some costs were omitted from the FCC's analysis even though that analysis considered the broad category containing such costs.

We also offer our critique of the FCC's analysis of the benefits of BPP and provide our own calculation of an upper bound on the benefits of BPP. Our upper bound, $221 million per year, is less than half the level of the benefits identified by the Commission. The biggest flaw in the FCC's benefits analysis is the treatment of commissions. The FCC's approval would treat a million dollar reduction in payments to the U.S. Park Service like a million dollar benefit to the public. That is unsound economics.

In any event, using either our estimate of the benefits of BPP or the Commission's estimate, our calculations indicate that the costs of BPP would vastly outweigh the benefits.

Given that benchmark regulation of OSPs provides a far less costly way to control the rates charged by OSPs (and one that could be effective in 1995 instead of 1997), implementing BPP would be wasteful.

II. Quantifying the Costs of Billed Party Preference

This report follows our earlier study, "The Many Costs and Few Benefits of Billed Party Preference." It provides a quantitative assessment of the costs of implementing Billed Party Preference (BPP) along the lines indicated in Chapter VI of that study. However, this analysis goes further in that it takes into account the information subsequently provided by commenters in the FCC's BPP Proceeding.[1]

While we follow closely the methodology set forth in our earlier study, we have modified that approach slightly to make the derivation of some of our results easier to understand.

We identify four different kinds of costs: network costs, marketing costs, administrative costs, and consumer costs. We discuss each of these cost elements in turn, below. First, we describe our approach to cost analysis.

A. BPP Cost Analysis Methodology

One can imagine several different approaches to studying the costs of BPP. For example, an affected organization can sit down and think through the costs that implementing BPP would impose on it. Such studies have been filed in CC Docket 92-77 and the FCC appears to have relied upon them to some extent. (See Appendix C to the Further Notice.) Such studies were also filed by many of the carriers commenting on the FNPRM in CC Docket 92-77.

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[1] In the Matter of Billed Party Preference for InterLATA Calls, CC Docket No. 92-77, Further Notice of Proposed Rulemaking, FCC 94-117.

That sort of "bottom-up" analysis has several virtues. For example, each carrier understands well its own network and costs, and thus is probably in a better position than any other party to analyze such costs. An aggregation of individual estimated cost impacts can be used to estimate the cost impact of BPP as a whole.

That approach also has defects. Important social costs not directly borne by any of the commenting parties may be omitted. For example, we believe that no party performing such a bottom-up analysis in the recent comment round included an estimate of the public benefits lost due to elasticity effects in long-distance. Most parties also omitted any consideration of the marketing costs that IXCs would incur as they chased the revenues associated with BPP presubscription.

Also, only those affected parties that filed were included in the estimate. The estimate therefore excluded costs to some parties.

Finally, differences in approach by the various commenting parties may make estimates hard to compare or combine.

Another method of estimating costs is what we call a "top-down" approach.[2] Rather than look at the individual costs associated with BPP (e.g., the cost of adding additional trunking from the Bell Atlantic switch in Bethesda to the Bell Atlantic OSS switch) one could consider large scale measures of the economic activities under BPP (e.g., how many times per year BPP would generate a database inquiry) and multiply these measures by an approximate cost for that activity (e.g., database inquiries to the LIDB cost about $0.035 - $0.040 today) to generate an overall cost estimate for the database inquiries generated under BPP. We propose using such a top-down approach.

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[2] The "top-down/bottom-up" terminology is used by others in a similar fashion. See *Telecommunications Reports*, July 25, 1994, p. 1.

We believe that the following factors drive most of the costs of implementing and operating BPP:

The number of access lines in the U.S.,
The number of equal-access central offices,
The number of non-equal-access central offices,
The number of calls that will be routed using BPP,
The number of minutes of use that will be routed using BPP,
The number of LEC OSS switches,
The network and marketing costs of IXCs in supporting BPP,
The number of CAP and PCS/Cellular switches to be modified to support BPP, and
The economic waste (loss of surplus) resulting from higher access costs (repression).

We developed a computer spreadsheet which uses these quantities to derive estimates of the total one-time and recurring costs of implementing and operating BPP.[3] The spreadsheet is set up in a user-friendly fashion with all the key variables entered into separate cells to allow for easy modification. The spreadsheet itself contains only formulas; all the quantitative assumptions (e.g., the average cost of setting up a BPP call) can be entered in the separate input cells. We invite analysts to substitute their own assumptions for ours. Analysts can then use our spreadsheet to calculate their own estimate of the cost-benefit ratio. We believe that results under any reasonable assumptions will corroborate our qualitative conclusion that the costs of BPP far outweigh the benefits.

In the discussion in this chapter, we first present the results from that spreadsheet calculated with assumptions that match as closely as we can the assumptions on traffic levels and BPP usage contained in the FCC's cost/benefit analysis presented in the FNPRM. In the next chapter, we further modify some of these assumptions in order to investigate how the costs of BPP vary under alternative assumptions.

[3] A copy of this spreadsheet in Quattro Pro for Windows or Excel 5.0 format on 3.5" disk can be obtained from the authors.

The role of some of these cost-causing elements is apparent. For example, implementing BPP will require hardware and software changes at essentially all LEC switches. Hence, the model must consider the number of such switches. Perhaps less apparent, but equally important, if BPP increases the costs of access, the price of long-distance calls will rise. Hence, subscribers will make fewer calls and will be worse off. Thus, any analysis of the costs of BPP should include the loss in economic surplus created by changes in the cost of access. This is the kind of cost that can easily be missed in a bottom-up analysis. Indeed, we note that the FCC's analysis omitted this cost.

We obtained information on the factors that we believe drive costs of BPP from the following sources:

We took data on access lines and LEC central office switches from the most recent edition of the United States Telephone Association's *Statistics of the Local Exchange Carriers: 1993.*

To estimate the number of BPP minutes, we first estimate the number of total operator service provider minutes of use in 1997 using the same growth rate as used in the analysis in the FNPRM at note 25. We then adjust this number downward to account for those operator service calls which use access codes or 800-numbers to dial around the default 0+ routing. We estimate the annual number of BPP calls by dividing the number of BPP minutes by 7.46 which is the average BPP call duration calculated from data in the Lande report (Attachment N of the TOSCIA report). Note that a shorter average call duration would increase the costs of BPP since BPP call setup would impose costs on the network.

We used the costs for IXC network implementation contained in the FCC FNPRM. As discussed below, we modeled IXC marketing expense as proportional to the dollar value of the BPP market. The proportionality constants are inputs to the spreadsheet — they are not buried in the formulas.

We estimated the number of LEC OSS switches by assuming that the BOCs have one in every LATA. We believe this to be roughly correct. We then added 20 more switches to account for OSS switches operated by non-Bell companies.

We developed our own estimates of the number of CAPs and cellular/PCS carriers and switches based upon our knowledge of the industry.

We estimate consumer surplus lost to be proportional to the annualized network costs that must be recovered from access charges.

B. An Example of Our Methodology

We will look at one cost-causing element in particular, minutes of use, and compare our analysis with the bottom-up analysis. First, our analysis. We know that a large fraction of toll traffic goes directly from the end-office to the IXC, bypassing the access tandem. Estimates are that use of the access tandem imposes costs of around one half cent per minute.[4] Operator calls that are routed through BPP will go through a switch similar to a tandem office (the LEC OSS switch). Since LECs have fewer OSS switches than access tandems, we expect that transport to OSS switches is more expensive than transport to tandems. Further, some OSP traffic from larger institutions (e.g. hotels and universities) goes directly to IXCs, bypassing both the LEC end office and LEC access tandem. Balancing all these factors, we propose using 90 percent of the cost of tandem traffic as our base-case estimate of the extra per-minute costs of BPP traffic. We also present the results of analysis taking 45 percent of the cost of tandem traffic as the extra per-minute cost of BPP traffic.

[4] Bell Atlantic's tariffed charge for interstate tandem usage in $0.00097 per minute of use. Current FCC rules permit only one fifth of tandem costs to be recovered in this charge, the other eighty percent are recovered in the residual interconnection charge. So Bell Atlantic's underlying tandem costs are approximately 5*0.097 = 0.485 cents per minute.

C. Network Costs

Eight of the cost elements impose costs on the access and long-distance networks. Let us discuss each of these in turn.

LEC central office switches cannot currently support BPP. They must be modified to support this new service. One required modification is the ability to transmit the identity of a presubscribed carrier associated with the calling telephone line to the LEC OSS. Additionally, the switches have to be "smart" enough to route calls dialed with a 10XXX0 access code to the IXC, and to route calls dialed with a 0 to the LEC OSS.

Our investigations indicate that LEC switches already upgraded to SS#7 can be upgraded to support BPP for a software investment in the range of $60,000 to $100,000 plus the time and effort required to test and verify the installation. In our base-case analysis, we use a figure of $75,000 to upgrade each equal-access switch — based on an assumed cost of $60,000 for software upgrades and $15,000 for testing and verification. Switches that have not yet been upgraded to SS#7 require that capability before implementing BPP. Our approach omits the costs of all the required upgrades to SS#7. Paralleling the Commission's analysis in the further notice, we base this omission on the possibility that SS#7 to an end office may provide other economic benefits. Adding in the costs of the SS#7 capabilities required to make BPP possible would significantly increase the initial costs of BPP.

Many commenters have presented similar views on the cost of such upgrades. USTA estimated that end office OSS7 capabilities would cost $272 million to benefit 1,637 smaller company switches (914 of which do not yet support SS#7).[5] This works out to $166 thousand per switch. In their recent comments in this proceeding, Sprint offered two analyses of the cost to their LECs of upgrading their plant to support BPP. In the first, lower-cost analysis, Sprint assumed that BPP could be implemented using MF signalling rather than the now

[5] USTA Comments, p. 4.

widely-accepted SS#7 out-of-band signalling.[6] Sprint argues that MF signalling would be less costly. We see no technical reason why use of MF signalling would not be possible, however we note that USTA stated that "Implementation of BPP using modified MF signalling is not available."[7] In confirmation of this, we note that Sprint urged the Commission to **require** switch manufacturers to build into their switches support for MF signalling for BPP.[8] If MF signalling were an available option, Sprint would not need to urge that regulators require it. Sprint neglects to observe that MF signalling would be slower than SS#7 signalling. Consequently, BPP service using MF signalling would probably have noticeably longer average call set up times than customers are accustomed to today. Nynex states that BPP without OSS7 is technically feasible but would add at least four seconds to set up a BPP call.[9] This estimate appears quite credible to us. In their alternate, higher-cost analysis, which assumes that OSS7 to the end office is required, Sprint calculated that upgrading 243 existing switches with SS#7 to OSS7 would cost $10.7 million, or $44 thousand per switch. Sprint also calculated that upgrading 122 non-SS#7 switches to OSS7 would cost $58 million or, $475 thousand per switch.[10]

Additionally, there is the question of how to properly treat non-equal access switches. While there are about 4,000 such switches, they serve relatively few access lines. For non-equal access offices in our base case we assume a one-time cost of $10,000 to rearrange trunking groups and to identify and contract with an operator service provider, if that proves necessary. We assume that the technical solution in all non-equal access offices is to trunk all calls dialed using a 0 to an operator services facility. In particular, any trunking arrangements that

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[6] GTE (GTE Comments, August 1, 1994, p. 9) also suggests that an alternate to OSS7, which they call OLNS, be used.

[7] USTA Comments, August 1, 1994, p. 6.

[8] Sprint Comments, p. 29.

[9] See Nynex Comments, August 1, 1994, p 9.

[10] See Sprint Comments, August 1, 1994, pp. 27-28.

carry 0+ calls to AT&T will have to be rearranged, since AT&T has stated its unwillingness to provide BPP service as part of the operator services it offers for local exchange carriers.[11] These trunking arrangements also impose recurring costs. However, our analysis of the per-minute costs of BPP implementation captures these trunking costs.

Each call that is made using BPP requires use of the resources of the LEC OSS to set up the call.[12] Call setup includes such activities as asking the calling party what type of call is being made, checking the database to determine the proper IXC for the call, and connecting the call to that IXC. We understand that currently the costs for access to the line-information databases today are about 3.5 - 4.0 cents per call. Mainstream suppliers of operator services impose a charge of close to a dollar for having an operator handle the call.[13] As the Commission recognizes, some of the activities of the LEC OSS may substitute for activities of the IXC operator systems, hence the full cost of the LEC OSS may not be a proper measure of the added costs of BPP call handling.[14] Nevertheless, these figures show that if BPP adds only ten or 20 percent to the current setup costs of operator calls, it is adding a cost of eight to 30 cents per call. For our base case, we estimate that each call routed through BPP will impose setup costs of 15 cents (roughly three times the cost of an LIDB inquiry) over what those calls cost today. We envision the duplicative costs for BPP to vary with the type of call. For example, LEC handling of credit card calls may completely

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[11] See USTA Comments, p. 8.

[12] Here, we are using "LEC" generally to mean the provider of the access service. Our analysis extends as well to CAPs, cellular firms, etc.

[13] For example, the C&P telephone book for the District of Columbia (April 1993-April 1994) states that there is a charge of $1.60 for an operator-handled call in addition to any charges that apply to the call itself. Major IXCs impose a charge of about $0.80 for a fully automated calling card call.

[14] A flaw in this argument is that the IXC investment in operator services equipment is essentially sunk. It seems highly unlikely that AT&T will be able to resell to the LECs any equipment idled by the implementation of BPP. Not only are there equipment compatibility issues, but the LEC systems must be built up and turned on before the IXC systems can be scaled down.